OceanPredict DA-TT meeting agenda
9-11th May 2023

Start time	End Time	File no	Presentation title	Presenter
Tuesday 9th May				
09:00	09:30		Arrival and registration	
09:30	09:50		Welcome and introduction	Storto, Moore, Martin
			Theme 1. Advances in DA methods (ensembles, algorithms, machine learning, downscaling, …)	**Chairs: Weaver, Martin**
09:50	10:10	1.1	Assimilation of high-resolution sea surface temperature into an eddy-resolving ocean model with a weak-constraint 4D-Var method	Usui (JMA/MRI)
10:10	10:30	1.2	Weak Constraint 4D-Var Data Assimilation in the Regional Ocean Modeling System (ROMS) using a Saddle-Point Algorithm	Moore (UCSC)
10:30	10:45		Discussion	
10:45	11:15		***Coffee break***	
11:15	11:35		Poster presentation overviews (3 minutes/1 slide each)	
11:35	11:55	1.3	Improving vortex position accuracy with a new multiscale alignment ensemble filter	Ying (NERSC)
11:55	12:15	1.4	Hybrid covariance super-resolution data assimilation	Barthelemy (U. of Bergen)
12:15	12:30		Discussion	
12:30	13:30		***Lunch***	
13:30	14:30		Discussion session on topic 1: How to improve integration of ocean DA developments in operational forecasts and demonstrate the impacts on ocean and coupled forecasts.	
14:30	14:50	1.5	Ensemble analysis and forecast of marine ecosystems in the North Atlantic using ocean colour observations and prior statistics from a stochastic NEMO-PISCES simulator	Brankart (CNRS)

14:50	15:10	1.6	Towards a Mercator reanalysis and forecasting system using an Ensemble Kalman Filter	Testut (MOI)
15:10	15:30		Discussion	
15:30	16:30		***Coffee break + poster session***	
16:30	16:50	1.7	Uncertainty and observability of target ecosystem indicators within the operational system on the North-West European Shelf	Skakala (PML)
16:50	17:10	1.8	Joint assimilation of sea-ice concentration and thickness from remotely-sensed observations	Cipollone (CMCC)
17:10	17:30		Discussion	
Wednesday 10th May				
			Theme 2. Error covariance modelling (B, Q and R, hybrid approaches)	**Chairs: Chrust, Moore**
09:00	09:20	2.1	Adaptive covariance hybridization for coupled climate reanalysis	Barthelemy (U. of Bergen)
09:20	09:40	2.2	Accounting for correlated observation error in variational ocean data assimilation: application to wide-swath altimeter data	Goux (CERFACS)
09:40	10:00	2.3	A scale-dependent hybrid background-error covariance model for global ocean data assimilation	Weaver (CERFACS)
10:00	10:15		Discussion	
10:15	10:45		***Coffee break***	
			Theme 3. Observing systems: requirements, evaluation, design and associated DA developments	**Chairs: Storto, Sperrevik**
10:45	11:05	3.1	Assimilating innovative subsurface observations into an ocean forecast system: How fishers made the forecast better.	Azevedo Correia de Souza (Meteorological Service of New Zealand)
11:05	11:25	3.2	Assimilation of high-sampling rate altimetry for sea level studies in the Nordic Seas and Arctic Ocean	Storto (CNR ISMAR)
11:25	11:45	3.3	Assessing the impact of assimilating Total Surface Current Velocities in global ocean forecasting systems.	Martin (Met Office)
			Theme 4. Software infrastructure and efficient use of DA on HPCs	**Chairs: Terruzi, Chrust**
11:45	12:05	4.1	Introducing the ROMS-JEDI Interface	Arango (Rutgers University)
12:05	12:25	4.2	Ensemble Data Assimilation in NEMO using PDAF	Nerger (AWI)

12:25	12:40		Discussion	
12:40	13:30		***Lunch***	
13:30	14:30		Discussion session on topic 2: How to contribute to the UN Decade for Ocean Science. Examples include the role of DA in digital twins, ocean best practices, and the evaluation and design of ocean observing systems. Should the DA-TT organise its own contribution to the UN Decade?	
			Theme 5. Coupled Earth system DA (e.g., ocean/atmosphere/sea-ice, physics/biogeochemistry, physics/acoustics)	**Chairs: Frolov, Moore**
14:30	14:50	5.1	Towards a WCDA system for the GFSv17 at NCEP: Preliminary results for the ocean and sea-ice	Paturi (Axiom@NOAA/NWS/NCEP/EMC)
14:50	15:10	5.2	Adding ocean ensemble capability to the Met Office coupled NWP system	Lea (Met Office)
15:10	15:30		Discussion	
15:30	16:00		***Coffee break***	
16:00	16:20	5.3	Guidance on Localization for Strongly Coupled Atmosphere-Ocean Data Assimilation	Stanley (CIRES / NOAA Physical Sciences Laboratory)
16:20	16:40	5.4	Correlations across the air-sea interface for variables without direct analogs	Akella (NASA)
16:40	17:00		Discussion	
			Thursday 11th May	
09:00	09:20	5.5	One-way coupled physical-biogeochemical 1D data assimilation at basin wide distributed float locations in the Mediterranean Sea	Teruzzi (OGS)
09:20	09:40	5.6	JEDI-based ocean color data assimilation for NOAA/NCEP's Unified Forecast System	Liu (SAIC @ NOAA/NWS/NCEP/EMC)
09:40	10:00	5.7	Coupled assimilation of satellite temperature and chlorophyll observations for improved ecosystem predictions in the Baltic Sea	Nerger (AWI)
10:00	10:15		Discussion	
10:15	10:45		***Coffee break***	
10:45	11:05	5.8	A Hybrid Ensemble Biogeochemical Data Assimilation System for the Red Sea: Development, Implementation and Evaluation	Sanikommu (KAUST)
			Theme 6. Applications of DA in operational forecasting, reanalysis systems, digital twins and climate prediction.	**Chairs: Sperrevik, Martin**

11:05	11:25	6.1	Consistent reanalysis: definition, challenges, and opportunities for collaboration	Frolov (NOAA)
11:25	11:45	6.2	ECMWF 6th generation ocean and sea-ice reanalysis system (ORAS6)	Chrust (ECMWF)
11:45	12:05	6.3	Reconstructing historical ocean heat content from reanalyses: an uncertainty assessment	Storto (CNR ISMAR)
12:05	12:20		Discussion	
12:20	13:30		***Lunch***	
13:30	14:30		Discussion session on topic 3. How to link better with the WMO community and other external groups. Examples include the input of ocean observation requirements to WMO, links to the DAOS working group, and links to the ISDA.	
14:30	14:50	6.4	Recent data assimilation developments in the Mediterranean Sea Analysis and Forecasting System (MedFS)	Aydogdu (CMCC)
14:50	15:10	6.5	Evolution of the Copernicus Marine Service global ocean analysis and forecasting high-resolution system: focus on data assimilation updates	Testut (MOI) on behalf of Lellouche (MOI)
15:10	15:30		**Close workshop**	Moore, Martin

Posters	Theme	Poster no	Poster title	Poster presenter
	1	P.1	Machine learning-based preconditioning for incremental variational data assimilation	Vidard (Inria)
	3	P.2	Thinning techniques for remote sensing observations	Matranga (UCSC)
	5	P.3	Assimilating observations of deformation to improve short-term ensemble forecasts of sea ice features	Ying (NERSC)
	5	P.4	Assessing the Impact of Initialisation Methods on Seasonal-to-Decadal Climate Predictions: Comparing Atmosphere and Ocean Constraints	Garcia-Oliva (University of Bergen)
	6	P.5	Assimilation of satellite observations in BSH operational circulation model for the North Sea and Baltic Sea: recent implementation and results	Li (BSH)
	6	P.6	Data assimilation experiment in the operational ecosystem models and forecasts for China coastal seas	Gao (NMEFC)